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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/740,016

12/18/2003

Paul J.G. Van Wulfften Palthe

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08/14/2009

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EXAMINER

COY, NICOLE A

ART UNIT

PAPER NUMBER

3672

NOTIFICATION DATE

DELIVERY MODE

08/14/2009

ELECTRONIC

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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte PAUL J.G. VAN WULFFTEN PALTHE

Appeal 2009-004143
Application 10/740,016
Technology Center 3600

Decided: August 12, 2009

Before LINDA E. HORNER, MICHAEL W. O'NEILL, and
KEN B. BARRETT, *Administrative Patent Judges*.

BARRETT, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Paul J.G. Van Wulfften Palthe (Appellant) seeks our review under 35 U.S.C. § 134 of the final rejection of claims 1-18 and 29-34. We have jurisdiction under 35 U.S.C. § 6(b).

SUMMARY OF THE DECISION

We AFFIRM-IN-PART.

THE INVENTION

Appellant's claimed invention pertains to systems used to complete subsurface oil and gas wells. Spec. 1, ¶¶ [0002], [0003]. Claims 1 and 29, reproduced below, are representative of the subject matter on appeal.

1. A one-trip system for use in a subterranean well comprising:

a unit adapted to be run downhole into the well in a single trip, the unit comprising:

a tubing hanger adapted to be mounted to one of the well and a well casing near the earth's surface;

a production tubing sealingly attached to the tubing hanger and adapted to receive a continuous medium riglessly deployed from the earth's surface;

a perforating gun assembly coupled to the production tubing; and

a screen assembly adapted to be engaged by the continuous medium to cause the release and movement of the screen assembly relative to the production tubing.

29. A method to complete a subterranean well in one trip comprising:

providing a one-trip completion system including at least a perforating gun and a production tubing;

running the one-trip completion system into the well in a single trip using a rig;

removing the rig;

after the removal of the rig, running a continuous medium downhole into the one-trip completion system; and
actuating and operating the one-trip completion system using the continuous medium.

THE REJECTIONS

The Examiner relies upon the following as evidence of unpatentability:

Strattan	US 5,211,243	May 18, 1993
King	US 5,329,998	July 19, 1994
Donnelly	US 5,901,789	May 11, 1999
Shy	US 6,199,632 B1	Mar. 13, 2001
Achee, Jr.	US 6,216,785 B1	Apr. 17, 2001
Ringgenberg ¹	US 6,325,146 B1	Dec. 4, 2001
Gano	US 6,382,323 B1	May 7, 2002
Lund	US 6,675,893 B2	Jan. 13, 2004

The Examiner made and maintains the following rejections:

1. Claims 1, 2, and 4 are rejected under 35 U.S.C. § 102(b) as being anticipated by King;
2. Claim 3 is rejected under 35 U.S.C. § 103(a) as being unpatentable over King and Strattan;
3. Claims 5 and 6 are rejected under 35 U.S.C. § 103(a) as being unpatentable over King and Ringgenburg;
4. Claims 7 and 8 are rejected under 35 U.S.C. § 103(a) as being unpatentable over King and Achee, Jr.;

¹ The Examiner incorrectly identified Ringgenberg as U.S. Patent No. 5,875,852 in the Final Rejection and in the Answer. *See* Final Rej. 3; Ans. 4. The Office Communication dated 2/14/2008 correctly identifies this reference.

5. Claims 9-15 and 17-18 are rejected under 35 U.S.C. § 103(a) as being unpatentable over King and Gano;

6. Claim 16 is rejected under 35 U.S.C. § 103(a) as being unpatentable over King, Gano, and Donnelly;

7. Claims 9-15 and 17-18 are rejected under 35 U.S.C. § 103(a) as being unpatentable over King and Shy;

8. Claim 16 is rejected under 35 U.S.C. § 103(a) as being unpatentable over King, Shy, and Donnelly; and

9. Claims 29-34 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Lund.

ISSUES

Regarding the rejection of claim 1 as anticipated by King, Appellant argues that King fails to disclose a screen assembly adapted to be engaged by the continuous medium to cause the release and movement of the screen. App. Br. 11. The Examiner found that the “adapted to” claim language is functional, and that King’s sand screen 24 is capable of being engaged, released, and moved by the continuous medium. Ans. 3, 11-12. Therefore, the first issue on appeal is:

Has Appellant shown that the Examiner erred in finding that King discloses the claimed screen assembly?

Regarding the rejection of method claim 29 as obvious over Lund, the Examiner found that Lund’s discussion of the background of the invention teaches that it was well known in the art to convey a perforating gun and production tubing into a well together. Ans. 9. The Examiner concluded that Appellant’s claimed method would have been obvious in light of that

teaching combined with Lund's disclosure of Lund's own well completion invention. *Id.* at 9-10. Appellant argues that Lund's invention involves running the perforating gun and production tubing into the well in two trips rather than Appellant's single trip, and thus Lund fails to teach or suggest performing the claimed acts with the one-trip system. App. Br. 12; *see* Reply Br. 2. Therefore, another issue on appeal is:

Has Appellant established that the Examiner erred in concluding that the combined teachings of Lund would have suggested to one of ordinary skill the claimed method utilizing a one-trip completion system?

FINDINGS OF FACT

We find that the following enumerated findings are supported by at least a preponderance of the evidence.

1. Appellant's Specification identifies a wireline and coiled tubing as examples of a continuous medium. Spec. 4, ¶ [0019].
2. Lund, in the Background of the Invention portion of the disclosure, teaches that it was known in the art to provide a well completion system that includes a perforating gun connected to the production tubing, and to run that system into a well in a single trip. Lund, col. 2, ll. 7-12.
3. Lund, under the heading "Detailed Description of the Preferred Embodiment," teaches a well completion system in which a single-zone perforating and packing assembly 20 (including a perforating gun 34) is lowered into the well casing. Lund, col. 4, ll. 21-24; col. 6, ll. 11-14; fig. 1. Then, production tubing (not shown in figure 1) is run into the hole with a rig, and the production tubing is coupled to the perforating and packing assembly. *Id.*, col. 6, ll. 19-23. After the production tubing has been run

into the well, the rig is removed. *Id.*, col. 6, ll. 23-26; *see also id.*, col. 14, ll. 9-16. In the context of that embodiment, Lund discloses actuating the perforating gun with a pressure switch and actuating and operating valves with a wireline after the production tubing has been run into the well and the rig removed. *Id.*, col. 6, ll. 23-28, 58-60. Lund also discloses actuating the perforating gun by other conventional means such as a wireline trigger. *Id.*, col. 5, l. 66 – col. 6, l. 3. Lund additionally discloses an embodiment in which a multiple-zone perforating and packing assembly 208 is run into the well, then production tubing 312 is lowered into the well with a rig, then the rig is removed, and then the completion system is actuated and operated with a wireline. *Id.*, col. 7, l. 41 – col. 8, l. 65; figs. 5-9. One of ordinary skill would understand Lund to teach running the wireline or other continuous medium (such as coiled tubing) downhole after removal of the rig. *See id.*, 8, ll. 23-30, 47-57.

PRINCIPLES OF LAW

During examination of a patent application, pending claims are interpreted broadly, *see In re Am. Acad. of Sci. Tech. Ctr.*, 367 F.3d 1359, 1364 (Fed. Cir. 2004), but the construction cannot be “beyond that which was reasonable in light of the totality of the written description,” *In re Baker Hughes Inc.*, 215 F.3d 1297, 1303 (Fed. Cir. 2000).

“A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.” *Verdegaal Bros., Inc. v. Union Oil Co. of Cal.*, 814 F.2d 628, 631 (Fed. Cir. 1987) (citations omitted).

A claim is unpatentable for obviousness if “the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.” 35 U.S.C. § 103. The question of obviousness is resolved on the basis of underlying factual determinations including: (1) the scope and content of the prior art, (2) any differences between the claimed subject matter and the prior art, (3) the level of skill in the art, and (4) where in evidence, so-called secondary considerations. *Graham v. John Deere Co.*, 383 U.S. 1, 17-18 (1966); *see also KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 407 (2007). The scope and content of the prior art includes the explicit and inherent teachings of the prior art. *In re Zurko*, 258 F.3d 1379, 1383-84 (Fed. Cir. 2001) (citing *In re Napier*, 55 F.3d 610, 613 (Fed. Cir. 1995)).

In *KSR*, the Supreme Court noted that “when a patent claims a structure already known in the prior art that is altered by the mere substitution of one element for another known in the field, the combination must do more than yield a predictable result.” *Id.* at 416 (citing *United States v. Adams*, 383 U.S. 39, 50-51 (1966)).

“[W]hen the prior art teaches away from combining certain known elements, discovery of a successful means of combining them is more likely to be nonobvious.” *KSR Int’l Co.*, 550 U.S. at 416 (citing *Adams*, 383 U.S. at 51-52). Whether a reference teaches away from a claimed invention is a question of fact. *In re Harris*, 409 F.3d 1339, 1341 (Fed. Cir. 2005). “A reference may be said to teach away when a person of ordinary skill, upon reading the reference, ... would be led in a direction divergent from the path that was taken by the applicant.” *In re Haruna*, 249 F.3d 1327, 1335 (Fed.

Cir. 2001) (quoting *Tec Air, Inc. v. Denso Mfg. Mich. Inc.*, 192 F.3d 1353, 1360 (Fed. Cir. 1999)).

ANALYSIS

The Rejection of Claims 1, 2, and 4 Under 35 U.S.C. § 102(b) as Being Anticipated by King

Claim 1 recites “a screen assembly adapted to be engaged by the continuous medium to cause the release and movement of the screen assembly relative to the production tubing.” Rejected claims 2 and 4 depend from claim 1, and thus also require this feature. Appellant’s Specification describes an embodiment of a screen that has a lock capable of being unlocked and locked by coiled tubing (which is a continuous medium, *see* Fact 1) and that is capable of being moved due to force applied to the coiled tubing. *See* Spec. 4-5, ¶ [0021]. In another embodiment, the coiled tubing latches onto the screen, dislodges it and moves it downward. *See id.* at 6, ¶ [0024]. Thus, the Specification suggests that an engagement between the screen and the continuous medium requires at least some contact and interaction between the two components.

The Examiner found that King’s inner service flow conductor 40 and sand screen 24, *see* King, col. 6, ll. 49-50, 58, correspond to the claimed production tubing and screen assembly, respectively, Ans. 3. The Examiner also found that the bore of the inner flow service conductor 40 is capable of receiving a continuous medium.² Ans. 11. However, the Examiner does not

² Appellant’s assertion, App. Br. 10, that King lacks a continuous medium run inside a production tubing does not persuade us of error because claim 1 does not require the presence of a continuous medium in the tubing. Rather, the claim recites a production tubing adapted to receive the medium.

adequately explain how King's screen is capable of being engaged by the continuous medium so as to cause the release and movement of the screen. It appears that a continuous medium lowered through the bore of King's inner service flow conductor 40 would pass through screen 24 inside washpipe 48. *See* King, col. 7, ll. 7-11; fig. 3B. It is unclear as to how King's screen can be said to be adapted to engage a medium that is enclosed inside a pipe within that screen. The Examiner also found that, if the continuous medium was equipped with a cutter, the screen would be capable of being released and moved by the continuous medium. Ans. 11-12. Thus, the Examiner apparently suggests that a screen is "adapted to be engaged by a continuous medium to cause the release and movement of the screen" when the fluid conductors above the screen can be severed. This is an unreasonably broad interpretation of the claim language. As such, we cannot sustain the rejection of claims 1, 2, and 4 as anticipated by King.

The § 103 Rejections Based on King in Combination with Strattan, Ringgenburg, or Achee

Claims 3 and 5-8 depend from claim 1, and, thus, also require the recited screen assembly adapted to be engaged by a continuous medium. The Examiner does not appear to have made any findings regarding Strattan, Ringgenburg, or Achee that would cure the defect of the underlying anticipation rejection of independent claim 1. *See* Ans. 4-5. Accordingly, we reverse the rejection of claim 3 as obvious over King and Strattan, the rejection of claims 5 and 6 as obvious over King and Ringgenburg, and the rejection of claims 7 and 8 as obvious over King and Achee.

The § 103 Rejections Based on King in Combination with Gano or Shy

Although Appellant addresses the anticipation rejection of claim 1 based on King, Appellant does not discuss the obviousness rejections of dependent claims 9-18 based on King in combination with other references. The Examiner found that Gano and Shy disclose releasable locking mechanisms for positioning wellbore equipment. Ans. 6-8. For example, the Examiner found that “Gano et al. suggest that a releasable no-go tool is useful in order to accurately position an item of equipment used in wellbore operations,” *id.* at 6, and that Shy discloses “a configuration [with a lock 50] in which the inner string can be moved from [sic] being mounted at the nipple to being mounted at the no-go nipple,” *id.* at 8. Appellant neither disputes these findings nor show why these findings fail to cure the deficiencies of the underlying rejection based solely on King. As such, Appellant has not shown error in the rejection of claims 9-15 and 17-18 over King and Gano, the rejection of claim 16 over King, Gano, and Donnelly, the rejection of claims 9-15 and 17-18 over King and Shy, and the rejection of claim 16 over King, Shy, and Donnelly.

The Rejection of Claims 29-34 Under 35 U.S.C. § 103(a) as Being Unpatentable over Lund

Appellant argues claims 29-34 as a group. App. Br. 11-13. We select claim 29 as the representative claim, and claims 30-34 stand or fall with claim 29. 37 C.F.R. § 41.37(c)(1)(vii) (2009).

Lund discloses a method utilizing a two-trip well completion system in which the perforating gun and the production tubing are run down the well separately. Fact 3. Lund also teaches that it was known in the art to send the perforating gun connected to the production tubing downhole in a

single trip. Fact 2. To use a known one-trip configuration rather than Lund's two-trip configuration with would have been obvious as a simple substitution of one known element for another to obtain predictable results.

Appellant argues that Lund teaches away from running a one-trip completion system (with both a perforating gun and production tubing) into a well in a single trip. App. Br. 12. In support of this argument, Appellant points to Lund's description of two embodiments in which the production tubing is run into the well after the perforating and packing assembly has been placed in the well. *Id.* (citing Lund, col. 6, ll. 19-23; col. 8, ll. 18-25). However, Appellant does not direct our attention to any disclosure in Lund that discourages one from running the perforating gun and production tubing into the well in a single trip. *See DePuy Spine, Inc. v. Medtronic Sofamor Danek, Inc.*, 567 F.3d 1314, 1327 (Fed. Cir. 2009) (quoting *In re Fulton*, 391 F.3d 1195, 1201 (Fed. Cir. 2004)) ("A reference does not teach away, however, if it merely expresses a general preference for an alternative invention but does not 'criticize, discredit, or otherwise discourage' investigation into the invention claimed."). Appellant has not persuaded us that Lund teaches away from the claimed invention.

Appellant also argues that Lund fails to teach or suggest all of the claim limitations because Lund does not disclose performing the claimed method steps with the embodiment in the Background section (which has a perforating gun attached to the production tubing). App. Br. 12; Reply Br. 2-3. We find this argument unpersuasive because it focuses on only one of Lund's disclosures. Non-obviousness cannot be established by attacking Lund's individual disclosures where the rejection is based upon the combined teachings of Lund. *See In re Merck & Co.*, 800 F.2d 1091, 1097

(Fed. Cir. 1986). Additionally, Appellant contends that Lund fails to contain the “requisite suggestion or motivation” to incorporate a one-trip system into the system disclosed as Lund’s invention. App. Br. 12. This argument is foreclosed by *KSR*, in which the Court rejected the rigid requirement of a teaching, suggestion or motivation to combine known elements in order to show obviousness. *KSR Int’l Co.*, 550 U.S. at 418-19.

Appellant contends that Lund’s Background section “essentially states that this operation [of running a continuous medium downhole into the system after rig removal to actuate and operate the system] is not possible using the combined perforating gun and production tubing system.” Reply Br. 2-3 (citing Lund, col. 2, ll. 2-12). We do not understand Lund’s Background section to state that such an operation is impossible. Rather, Lund merely states in the Background section that the use of a one-trip system was known, and that in instances in which multiple production zones are to be perforated and packed, a rig was required. Lund’s Detailed Description section, however, removes the requirement for a rig because it teaches operating the system – including actuating the perforating gun while coupled to the production tubing – with a wireline after removal of the rig. Fact 3.

Appellant further argues that one of ordinary skill would not know how to modify Lund’s system so as to make it a one-trip system, but instead would only assume that separation of the production tubing and perforating gun is needed. Reply Br. 3. Appellant does not offer any persuasive evidence or argument to indicate why one of ordinary skill would make such an assumption. Further, as the “person of ordinary skill is also a person of ordinary creativity, not an automaton,” *KSR Int’l Co.*, 550 U.S. at 421, and

as it was known to send the perforating gun and production tubing downhole together, Fact 2, we decline to find that such a person would assume that Lund's system requires the separation of the production tubing and the gun.

Appellant has not persuaded us of error in the Examiner's rejection of claim 29 as unpatentable over Lund. Accordingly, we sustain the rejection of claim 29, as well as the rejection of claims 30-34, which fall with claim 29.

CONCLUSIONS

Appellant has shown that the Examiner erred in finding that King discloses the claimed screen assembly. Thus, we reverse the rejection of claims 1, 2, and 4 as anticipated by King. We also reverse the rejection of claim 3 as being unpatentable over King and Strattan, the rejection of claims 5 and 6 as being unpatentable over King and Ringgenburg, and the rejection of claims 7 and 8 as being unpatentable over King and Achee, Jr.

Appellant has failed to show that the Examiner erred in making the following rejections, and, accordingly, we affirm:

- a. The rejection of claims 9-15 and 17-18 as being unpatentable over King and Gano;
- b. The rejection of claim 16 as being unpatentable over King, Gano, and Donnelly;
- c. The rejection of claims 9-15 and 17-18 as being unpatentable over King and Shy; and
- d. The rejection of claim 16 as being unpatentable over King, Shy, and Donnelly.

Additionally, Appellant has not established that Examiner erred in concluding that the combined teachings of Lund would have suggested to one of ordinary skill the claimed method utilizing a one-trip completion system. Thus, we affirm the rejection of claims 29-34 under § 103(a) as being unpatentable over Lund.

DECISION

The decision of the Examiner to reject claims 1-8 is reversed. The decision of the Examiner to reject claims 9-18, and 29-34 is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a). *See* 37 C.F.R. § 1.136(a)(1)(iv) (2007).

AFFIRMED-IN-PART

Appeal 2009-004143
Application 10/740,016

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